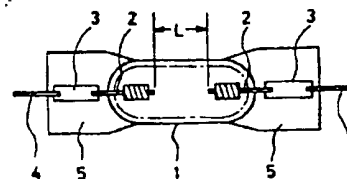


**(54) HIGH PRESSURE METALLIC VAPOR ELECTRIC DISCHARGE LAMP**

(11) 6-84496 (A) (43) 25.3.1994 (19) JP  
 (21) Appl. No. 4-236589 (22) 4.9.1992  
 (71) TOSHIBA LIGHTING & TECHNOL CORP (72) TOSHIHIKO ISHIGAMI(1)  
 (51) Int. Cl.<sup>5</sup> H01J61/18, H01J61/073

**PURPOSE:** To provide a high pressure metallic vapor electric discharge lamp which is capable of dimming light with little change in color characteristic over a wide input range and has a good startup characteristic.

**CONSTITUTION:** A metal halide, such as NaI and Scl<sub>2</sub>, and a rare gas selected from xenon gas, krypton gas and argon gas are sealed in a light-emitting tube H bulb 1 having at least a pair of electrodes 2, 2, while mercury is not sealed therein.



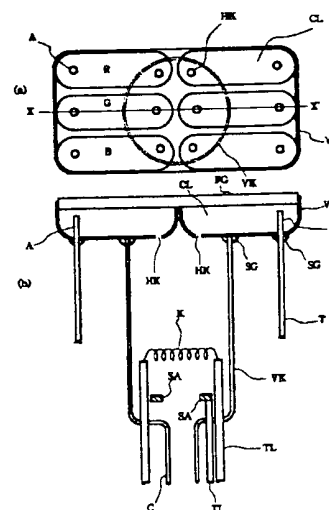
1: bulb, 5: sealing portion

**(54) ELECTRIC DISCHARGE DISPLAY TUBE**

(11) 6-84497 (A) (43) 25.3.1994 (19) JP  
 (21) Appl. No. 4-257658 (22) 2.9.1992  
 (71) NORITAKE CO LTD (72) AKIRA KANI(1)  
 (51) Int. Cl.<sup>5</sup> H01J61/30, H01J61/92

**PURPOSE:** To provide an electric discharge display tube which is excellent in size accuracy and brightness efficiency, etc., and is easy to assemble by forming a plurality of recesses in a metallic plate by embossing, and applying phosphor emitting visible light to the inner surface of a discharge cell that the recesses form.

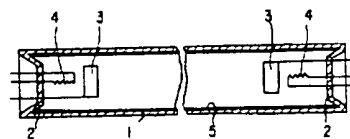
**CONSTITUTION:** A metallic plate made from a nickel-chrome-iron alloy or the like is embossed to form at least more than one recess, and a through hole HK is provided in each recess. The surface of the metallic plate is covered with glass and a dielectric substance containing glass, and the periphery of the metallic plate is sealed by a transparent glass panel FG placed to block the recesses, so as to form a hermetic display vessel VD. Phosphor which is caused to emit visible light by ultraviolet rays which a discharge gas sealed in the vessel VD generates is applied to the inner surface of a discharge cell CL which the recesses form. A common hot cathode K for the plurality of recesses is formed in another sealed vessel VK communicating with each recess, and an auxiliary anode SA is formed near the hot cathode K and an anode A is mounted in each recess, so as to manufacture an electric discharge display tube.

**(54) LOW PRESSURE MERCURY VAPOR ELECTRIC DISCHARGE LAMP FOR ULTRAVIOLET IRRADIATION**

(11) 6-84498 (A) (43) 25.3.1994 (19) JP  
 (21) Appl. No. 4-235922 (22) 3.9.1992  
 (71) TOSHIBA LIGHTING & TECHNOL CORP  
 (72) KAZUHIKO YOSHIKAWA(2)  
 (51) Int. Cl.<sup>5</sup> H01J61/35

**PURPOSE:** To provide a low pressure mercury vapor electric discharge lamp for ultraviolet irradiation, in which deterioration of ultraviolet transmittivity in a short time is prevented so that emission of large quantities of ultraviolet rays is made possible over a long period of time.

**CONSTITUTION:** In a low pressure mercury vapor electric discharge lamp having electrodes 3, 4 sealed at both ends of a light-emitting tube 1 made from quartz glass with mercury and a rare gas sealed in the light-emitting tube, a molten glass layer or a film 5 of at least one kind of metal oxide selected from aluminium oxide, magnesium oxide and oxides of rare earth metal is formed on the inner surface of the light-emitting tube. Since the molten layer or film of metal oxide is formed on the inner surface of the light-emitting tube, the oxide prevents the mercury from entering the quartz glass, thereby preventing deterioration of the quartz glass. Therefore, the ultraviolet transmittivity of the quartz glass is kept high.



2: stem, 3: anode, 4: cathode, 5: film of metal oxide